

**TECHNICAL REVIEW DOCUMENT
For
RENEWAL OF OPERATING PERMIT 01OPBA232**

Springfield Municipal Power Plant
Baca County
Source ID 0090002

Prepared by Joshua Jones
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I. Purpose

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the renewed Operating Permit proposed for the Springfield Municipal Power Plant. It is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties.

The original Operating Permit for this facility was issued on February 1, 2002. The first renewal was issued on April 1, 2007, and expired on April 1, 2012. Please note that copies of the Technical Review Document (TRD) for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at www.colorado.gov/cdphe/airTitleV. An operating permit renewal application for this facility was not submitted before the deadline, therefore, no application shield for this facility has been granted.

Conclusions made in this report are based on information provided by the applicant in the Title V permit renewal application submitted on March 28, 2012, comments on the draft permit submitted on [June 11, 2013], previous inspection reports, various telephone conversations and email correspondence with the source, and review of Division files. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Source

This source is classified as an electric services facility under Standard Industrial Classification 4911. The Springfield Municipal Power Plant consists of four (4) operable internal combustion engine-electrical generating sets used for standby/emergency electrical generation. All units are dual fired, either diesel fuel alone or a combination of diesel and natural gas. The generator sets are rated as follows:

Unit 1 – 1250 kW Unit 4 – 592 kW
Unit 2 – 200 kW Unit 5 – 800 kW

The engine-electric generating sets had the following installation dates:

Unit 1 – 1967 Unit 4 – 1954
Unit 2 – 1950 Unit 5 – 1962

These units are considered “grandfathered” from existing Construction Permit requirements because they were installed prior to 1972 (Colorado Regulation No. 3, Part B, Section I.A). As such, they do not have emissions limitations for pollutants. Actual emissions must be calculated for fee and inventory purposes.

This facility is located in Springfield at 1241 Tipton, in Baca County. The area in which the plant operates is designated as attainment for all criteria pollutants.

Kansas, Oklahoma, and New Mexico are affected states within 50 miles of the facility. There are no Federal Class I designated areas within 100 kilometers of the plant.

This facility is categorized as an existing major source for purposes of Prevention of Significant Deterioration (PSD) review requirements. (Potential to Emit > 250 tons/year for NO_x)

Based on information provided by the applicant, this facility is not subject to the provisions of the Accidental Release Prevention Program. (Section 112(r) of the Federal Clean Air Act)

Emissions (in tons/yr) at the facility are as follows:

Pollutant	Potential to Emit (PTE)	Actual
PM	37	0.0140
PM ₁₀	36	0.0134
SO ₂	35	0.0131
NO _x	528	0.1963
VOC	36	0.0134

CO	114	0.0427
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The potential to emit for criteria pollutants is based on maximum potential fuel consumption and emission factors from EPA document 450/4-90-003. The design rates of fuel consumption for the engines are as follows:

Unit 1 - 15.29 MMBtu/hr Unit 4 – 7.65 MMBtu/hr
Unit 2 – 2.78 MMBtu/hr Unit 5 – 9.73 MMBtu/hr

Potential to emit and actual emissions are based on fuel heating values of 1000 Btu/scf for natural gas and 139,000 Btu/gal for diesel fuel. Actual emissions are from the most recent submitted APEN. (received February 15, 2011)

According to the initial Title V permit application, this facility does not emit significant amounts of Hazardous Air Pollutants (HAPs).

Applicability Determinations

Compliance Assurance Monitoring (CAM)

This facility does not employ any control equipment, and is therefore not subject to the CAM provisions.

40 CFR Part 72 – Acid Rain Program (ARP)

This facility is not subject to the Acid Rain Program of 40 CFR Part 72. It commenced commercial operation before November 15, 1990, and did not, as of November 15, 1990, and does not currently, serve a generator with nameplate capacity of greater than 25MWe. Therefore, this facility is exempt per 40 CFR 72.6(b)(2). The total generator capacity of the facility is approximately 3 MWe.

Greenhouse Gases

The potential-to-emit of greenhouse gas (GHG) emissions from this facility is less than 100,000 TPY CO₂e. Future modifications greater than 100,000 TPY CO₂e may be subject to regulation (Regulation No. 3, Part A, I.B.44).

Total facility CO₂e PTE was estimated to be approximately 25,600 TPY using the maximum potential fuel consumption of 310,498.2 MMBtu/yr and a CO₂e emission factor from AP-42, table 3.4-1.

40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

This facility is an area source of Hazardous Air Pollutants (HAPs). The engines at this facility are classified as existing (commenced construction before June 12, 2006 per §63.6590(a)(3)(iii)) and therefore are subject to rules promulgated by EPA on March 3, 2010 for existing stationary compression ignition (CI) reciprocating internal combustion engines (RICE) located at area sources. However, Colorado has not adopted the area source revisions to the RICE MACT, and therefore the requirements of this section are only federally enforceable.

Since these engines are existing stationary RICE located at an area source, there are no emission or operating limitations, nor initial notification or performance testing requirements. These engines are subject to management practices that include frequencies for oil changes and inspection schedules for air filters and belts. The compliance date for these engines is May 3, 2013.

40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The engines at this facility were constructed prior to July 11, 2005 and have not been modified or reconstructed after July 11, 2005. Therefore, they are not subject to NSPS IIII.

Colorado Regulation No. 1 (5 CCR 1001-3) – Emission Control for Particulate Matter, Smoke, Carbon Monoxide, and Sulfur Oxides

This facility is exempt from Section III Particulate Matter process based standards because internal combustion engines do not meet the definition of “fuel burning equipment” found in the Common Provisions Regulation. (5 CCR 1001-2)

This facility is exempt from Section VI Sulfur Dioxide Emission Regulations because all units are existing sources (constructed or modified prior to August 11, 1977), total potential uncontrolled SO₂ emissions for the facility are less than 3 tons/day, and the Division is unaware of any violations of State or Federal Ambient Air Quality Standards. (per Section VI.A.2)

Colorado Regulation No. 6 (5 CCR 1001-8) – Standards of Performance for New Stationary Sources

This facility is exempt from the Particulate Matter process based standards of Part B, Section II.C and the Sulfur Dioxide process based standards of Part B, Section II.D because internal combustion engines do not meet the definition of “fuel burning equipment” found in the Common Provisions Regulation (5 CCR 1001-2) and all units were constructed prior to the applicability date of January 30, 1979 (Section II.A).

III. Discussion of Modifications Made

Source Requested Modifications

The renewal application received on March 28, 2012 did not request any modifications.

An administrative modification was received on February 2, 2009 that requested Darwin Hansen be designated as the Permit Contact Person.

In a phone call on June 6, 2012, in response to an email sent on May 29, 2012 regarding NESHAP ZZZZ applicability, Darwin Hansen requested that these engines be classified as standby/emergency only. In previous years these engines had, at times, been used for peak shaving, but due to the promulgation of NESHAP ZZZZ area source requirements for existing engines, the source prefers to classify these engines as emergency only to avoid requirements applicable to non-emergency engines.

It was not immediately clear, from the Division's standpoint, if these engines would qualify as emergency engines under the provisions of NESHAP ZZZZ. Among the concerns were the circumstances under which Springfield normally operates these engines, and whether supplying power to Springfield's residents (as part of a financial arrangement) would qualify as emergency operation during these events. The Arkansas River Power Authority (ARPA) normally supplies Springfield's power, transmission and associated services. An email was sent to Darwin Hansen on August 29, 2012 that asked questions meant to clarify the relationship between ARPA and Springfield, the circumstances under which the normal power supply (from ARPA) can be interrupted, and who are the recipients of the power supplied by Springfield under these circumstances. In the reply from Springfield, received on September 6, 2012, Darwin Hansen stated that the only time that the emergency engines were operated was when the sub-transmission or transmission system(s) operated by others go down, and that the only recipient of the power supplied by Springfield Municipal Power was the Town of Springfield. In addition, Darwin stated that Springfield is not contractually obligated to maintain its generating resources as a standby or peaking resource per its power supply agreement with ARPA.

In discussions within the Division it was determined that these engines would qualify as emergency engines, able to supply power to the Town of Springfield per a financial arrangement with its customers during emergency situations, as long as the emergency situation (when normal power supply is interrupted) is an *unplanned* event. If normal power supply from ARPA (the supplier) is interrupted due to a scheduled planned outage, such as any required maintenance that needs to be performed on transmission lines or substations, by the supplier or the Town of Springfield, then operation during these periods may not qualify as emergency operation and Springfield might need to apply for a permit modification to operate during these types of outages. A note under Condition 1.6.12 has been added to the permit to clarify that an emergency situation occurs only for a situation caused by an unplanned event. This note was deemed necessary to ensure that these engines could qualify as "emergency engines" under the provisions of 40 CFR 63 Subpart ZZZZ. This condition does not preclude Springfield from starting the emergency engines in anticipation of an emergency outage (such as for an approaching thunderstorm anticipated to cause a power outage) or per the provisions of 40 CFR 63, §63.6640(f)(2) and (f)(4). [Information used in making this determination came from a letter from EPA Region 7 Director of Air and Waste Management Division, Becky Weber, to Mr. Floyd Gilzow, of the Missouri Public Utility Alliance, regarding potential applicability issues for public utilities.]

If Springfield determines that the requirements for emergency engines of NESHAP ZZZZ are too prohibitive for their municipal utility, an extension of the compliance date for emission standards may be required. An application for an extension to the Administrator must be completed per the requirements of 40 CFR 63, §63.6(i).

The source's requested modifications were addressed as follows:

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- Revised the permit contact information in accordance with information submitted in the administrative modification received on February 2, 2009.

Section I – General Activities and Summary

- Updated Condition 1.1 to reflect the designation of these engines as emergency only by removing “primarily” from the phrase “used primarily for standby/emergency electrical generation”.

Section II – Specific Permit Terms

- Added Condition 1.6 to include NESHAP ZZZZ requirements for emergency engines.

Other Modifications

In addition to the source requested modifications, the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal.

These changes are as follows:

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- It should be noted that the monitoring and compliance periods and report and certification due dates are shown as examples. The appropriate monitoring and compliance periods and report and certification due dates will be filled in after permit issuance and will be based on permit issuance date. Note that the source may request to keep the same monitoring and compliance periods and report and certification due dates as were provided in the original permit. However, it should be noted that with this option, depending on the permit issuance date, the first monitoring period and compliance period may be short (i.e. less than 6 months and less than 1 year).
- Modified the language concerning postmarked dates for report submittals to reflect the Division’s current standard language.

Section I – General Activities and Summary

- Condition 1.1: removed the word “primarily” because under NESHAP ZZZZ emergency engine classification these units are no longer able to be used for peak shaving.
- Condition 1.4 was revised to reflect current State-only enforceable conditions.
- Condition 1.5 was modified to add recordkeeping requirements related to the operation and maintenance of the engines according to manufacturer’s recommendations and good engineering practices. This requirement was added based on comments received from EPA on similar conditions in other permits.
- Condition 3.1 was revised to reflect current Division permit language.
- The order of Conditions 5 and 6 was interchanged to reflect current formatting.

Section II – Specific Permit Terms

- Summary Table 1 was revised to reflect revised opacity conditions and to include NESHAP ZZZZ applicability.
- Condition 1.3 was split into two conditions (1.3 and 1.4), and minor language changes were made in order to match recently issued permits.

- Condition 1.6 was added to include NESHAP ZZZZ requirements promulgated since the last permit renewal.

Section III – Permit Shield

- Condition 3 was added to include any applicable stream-lined conditions. This condition is standard in all current Operating Permits.

Section IV – General Permit Conditions

- Updated the general permit conditions to the current version (5/22/2012).

Appendices

- Added facility plot plan to Appendix A.
- Updated Appendices B and C (Monitoring and Permit Deviation Reports and Compliance Certification Reports) to the newest versions (2/20/2007).
- Updated Appendix D with current Division and EPA addresses.

Source's Comments on Draft Permit

During a phone call from Darwin Hansen on June 11, 2013 Darwin noted that the only concern with the draft renewal operating permit was that Condition 1.6.3 seemed to limit the fuel for use in the engines to diesel fuel, whereas these engines are currently permitted to run on either diesel fuel, or a combination of diesel fuel and natural gas (dual fuel). This condition does not prohibit these engines from using natural gas as fuel or running in dual fuel mode, but requires the use of diesel fuel meeting certain qualifications, when using diesel fuel to run the engines, and when operating in certain non-emergency situations.